Powertech's Proposed Dewey-Burdock In-Situ Uranium Recovery Operation near Edgemont, South Dakota

Background:

I. The EPA Region 8's Underground Injection Control program is evaluating two permit applications from Powertech (USA) Incorporated (Powertech):
   1. One is a Class III injection well area permit for the In-Situ Recovery (ISR) of uranium at Powertech's Dewey-Burdock site in Fall River and Custer Counties in South Dakota.
   2. The second is a Class V area permit proposing four to eight deep injection wells to be used for disposal of waste fluids from the uranium recovery operation.

II. In addition to the permit application, Powertech submitted an aquifer exemption request to enable injection for uranium recovery from ore deposits within the Inyan Kara Group aquifer system.

Location: (Figure 1) The Dewey-Burdock permit area is located approximately 20 miles southwest of the Black Hills, approximately 46 miles west of the Pine Ridge Reservation and 13 miles north-northwest of Edgemont (pop. <800). The project site is about 20 miles northwest of the Wild Horse Sanctuary.

Key Points:

1. The EPA's role is to regulate the injection wells at the site and make a determination on the requested aquifer exemption.

2. The EPA Region 8 considers the Nuclear Regulatory Commission and the South Dakota Department of Environment and Natural Resources to be the lead agencies at the site. The DENR is handling several types of permitting activities at the site, including the large scale mine permit for the whole site. The NRC license and the DENR mining permit will regulate the site through restoration and site closure.

3. Powertech has proposed fourteen wellfields, which will contain several hundred Class III injection wells ranging from 400 to 700 feet in depth (Figure 2). Ten of these wellfields are in the Burdock area of the site. One well fields lies directly under the abandoned mines and one very close to them. The well field ore zones will not be hydraulically connected because there is a confining unit in between the two ore-bearing aquifers (Figure 4). The wellfields are targeting ore in the Lower Chilson Sandstone; the surface mines removed ore from the Fall River Formation.

4. Powertech has proposed four to eight Class V deep disposal wells for the disposal of operation waste fluids. In order to be able to use Class V wells, the injected fluids will be treated to bring radioactive constituents below the levels of radioactive waste as specified under NRC regulations referenced by UIC regulations at 40 CFR 144.3.

5. The UIC Program must verify that no contaminants will cross the aquifer exemption boundary (Figure 2). We have had support from a previous RARE project with USGS to help evaluate the aquifer exemption boundary.

6. The Class V injection zones, as shown in Figure 4, are the Minnelusa and Deadwood Formations.

7. We are currently involved in the National Historic Preservation Act Section 106 Tribal Consultation process and will not issue any draft permits until we are further along with this process.